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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/825,649

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Hiroki Kitahori

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EXAMINER

RODRIGUEZ, GLENDA P

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,649

Applicant(s)

KITAHORI ET AL.

Examiner

Glenda P. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-16 and 18 is/are rejected.
- 7) ☒ Claim(s) 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-16 and 18 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The utilization of the word "axially" which is critical or essential to the practice of the invention, but is not included in the specification in the disclosure.

See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1, 3-6, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bogdanski (US Patent No. 4, 703, 379).

Regarding Claims 1, 4 and 6, Bogdanski teach a disk device, comprising:

A magnetic disk for storing data and having a radial surface (See Fig. 2, Element 26);

An enclosure containing the magnetic disk and having a surface (See Fig. 2, Element 10. Bogdanski teaches that the medium is enclosed in a housing surrounding the magnetic disk along with all its components.);

And a local magnetic field generator provided in the enclosure for generating a local magnetic field when the enclosure is set in an external magnetic field (See Fig. 2, Element 62. Bogdanski teach a magnetic field generator (electromagnet) that is enclosed in the housing generates a local magnetic field used for erasing magnetic disk.).

The local magnetic field generator extends from the surface of the enclosure and extends axially toward the radial surface of the magnetic disk such that the local magnetic field generator is axially closer to the magnetic disk than the surface of the enclosure, and the local magnetic field is generated from the enclosure toward the magnetic disk (See Fig. 2 (Element 62). Bogdanski teaches a permanent magnet (or electromagnet) extending in an axis from the surface of the housing and locating the electromagnet over the surfaces of the disks, which erases the data as the disk is revolving around the spindle. The permanent magnet generates a field used to erase the surface of the magnetic disk (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field through a magnetic mutual induction toward the magnetic disk.).).

Regarding Claim 3, Bogdanski teach all the limitations of Claim 1. Bogdanski also teaches wherein the local magnetic field has a main component parallel to a surface of the magnetic disk in an area where the magnetic disk is located (See Fig. 2, Element 62. Bogdanski teaches that the magnet lies parallel to the disk surface.).

Regarding Claim 5, Bogdanski teach all the limitations of Claim 4. Bogdanski also teaches wherein the disk device erases data stored in the disk-like storage medium by magnetic

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flux starting from one of the pole pieces when the disk device is set in an external magnetic field (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field when a current is provided to that magnet.)).

Regarding Claim 7, Bogdanski teaches all the elements of Claim 6. Bogdanski further teaches wherein the pair of protrusions is provided in a position corresponding to an inner circumference side of the magnetic disk (See Fig. 2, Element 62. Bogdanski teaches that the magnets used to erase the disk are located at the surface of the disk (and according to the drawing, the area also includes the inner circumference)).

Regarding Claim 9, Bogdanski teaches all the limitations of Claim 6. Bogdanski further teaches wherein the pair of protrusions is located in a circumferential direction of the magnetic disk while maintaining a predetermined gap therebetween (Col. 5, Lines 12-22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) in view of Tielemans et al. (US Patent No. 6, 046, 881). Bogdanski teaches all the limitations of Claim 6. Bogdanski fail to teach wherein the enclosure includes a box-like base having an opening part, and a top cover for covering the opening part of the base, and the pair of protrusions is provided on the top cover. However, this feature is well known in

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the art, as disclosed by Tielemans et al., as disclosed by Tielemans et al., wherein it teach one surface of the enclosure facing the magnetic disk is composed of soft magnetic material (Pat. No. 6, 046, 881; Col. 3, Lines 29-34). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bogdanski's invention in order for the medium to be able to be magnetic and receive the magnetic flux from the external magnetic field.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) in view of Araki et al. (US Patent No. 5, 657, 190). Bogdanski teaches a disk device for storing and reading data, comprising:

A magnetic disk for storing data (Pat. No. 4, 703, 379; See Fig. 2, Element 26);

An actuator having a magnetic head for reading from and writing data to the magnetic disk (Pat. No. 4, 703, 379; See Fig. 2, Bogdanski teaches the use of a magnetoresistive head (Element 36), but fails to teach the use of an actuator. However, it is inherent to an artisan that the magnetic head needs an actuator in order to move throughout the disk.);

A magnetic gap formed on said at least one surface of the enclosure between a pair of generally rectangular, radially spaced-apart protrusions that extend axially away from said at least one surface of the enclosure, wherein the pair of protrusions are discontinuous with the magnetic head of the actuator and axially closer to the radial surface of the magnetic disk than said least one surface (Pat. No. 4, 703, 379; See Fig. 2, Element 62 and Col. 5, Lines 12-22. Bogdanski teaches a magnet (Element 62, which has a generally rectangular shape) extending in an axis from the surface of the housing and locating the electromagnet over the

surfaces of the disks, which erases the data as the disk is revolving around the spindle. It is known that a gap must remain between the magnet and the disk in order to evade any damage done to the disk when performing any operation.. The permanent magnet generates a field used to erase the surface of the magnetic disk (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field through a magnetic mutual induction toward the magnetic disk.).

Although Bogdanski describes the actuator function in Col. 3, Lines 23-32. Bogdanski further teaches an enclosure containing a magnetic disk and the actuator, wherein at least one surface of the enclosure facing the magnetic disk is parallel to the radial surface of the magnetic disk (See. Fig. 2, Element 62. Bogdanski teaches a permanent magnet (or electromagnet) extending in an axis from the surface of the housing and locating the electromagnet over the surfaces of the disks, which erases the data as the disk is revolving around the spindle. The permanent magnet generates a field used to erase the surface of the magnetic disk (Col. 3, Lines 40-45, Lines 51-55 and Col. 4, Lines 49-56. It is inherent that a magnetic emits a magnetic field through a magnetic mutual induction toward the magnetic disk.). Bogdanski fail to teach wherein at least one surface of the enclosure facing the magnetic disk is composed of soft magnetic material. However, this feature is well known in the art as disclosed by Araki et al., wherein it teach an enclosure for containing the magnetic disk and the actuator, wherein at least one surface of the enclosure facing the magnetic disk is composed of soft magnetic material (Pat. No. 5, 657, 190; See Fig. 1. Araki et al. teach that the medium is enclosed in a housing surrounding the magnetic disk along with all its components). It would have been obvious to a person of ordinary skill in

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the art, at the time the invention was made, to modify Bogdanski's invention in order to have the enclosure made of a soft magnetic material because it is known in the art that these types of materials are used for this function.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) and Araki et al. (US Patent No. 5, 657, 190) as applied to claim 10 above, and further in view of Tielemans et al. (US Patent No. 6, 046, 881).

Regarding Claim 11, Bogdanski and Araki et al. teach all the limitations of Claim 10. Bogdanski and Araki et al. fail to teach wherein the magnetic gap is a vacancy formed in the enclosure composed of the soft magnetic material. However, this feature is well known in the art as disclosed by Tielemans et al., wherein it teaches that the magnetic gap is a vacancy formed in the enclosure composed of the soft magnetic material (Pat. No. 6, 046, 881; Col. 3, Lines 29-34. It is obvious to a person of ordinary skill in the art that there exists a vacancy between the enclosure and the disk.). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Araki et al.'s invention in order for the medium to be able to generate a magnetic field by the use of magnetic materials.

Regarding Claim 12, Bogdanski and Araki et al. teach all the limitations of Claim 11. Bogdanski and Araki et al. fail to teach wherein a magnetic circuit generating magnetic flux toward the magnetic disk is formed around the vacancy. Bogdanski however, teaches a magnet that lies over the surface of the disk in which is used for erasing data in the disk (Pat. No. 4, 703, 379; See Fig. 2, Element 62 and Col. 4, Lines 40-45 and Lines 51-56). It is obvious that for a magnetic element to move and produce a magnetic flux when a current and/or voltage is applied to the magnetic element.

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Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski and Araki et al. as applied to Claim 12 above, and further in view of Ahmad et al. (US Patent No. 6, 175, 469). Bogdanski and Araki et al. teach all the limitations of Claim 12. Bogdanski and Araki et al. fail to teach wherein the magnetic circuit is integrally formed with the enclosure as a single piece. However, this feature is known in the art, as disclosed by Ahmad et al., wherein it teach a top cover of a housing that contains the magnets (Pat. No. 6, 175, 469; Col. 8, Lines 19-29). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Araki et al.'s invention in order for the medium to have the components in one piece in order for the medium to be able to perform the magnetic field more effectively.

Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdanski (US Patent No. 4, 703, 379) in view of Araki et al. (US Patent No. 5, 657, 190) and Nagasato et al. (US Patent No. 5, 146, 447).

Regarding Claim 18, Bogdanski teaches a data-erasing method for erasing data stored in a magnetic disk in a disk device, comprising the steps of:

Providing a disk device with a magnetic disk located inside an enclosure (Pat. No. 4, 703, 379; See Fig. 2, Element 26);

Providing both the magnetic disk and the enclosure with radial surfaces that are substantially parallel to each other (Pat. No. 4, 703, 379; See Fig. 2, Element 26. Bogdanski teaches using a plurality of radial surfaces.);

Positioning a protrusion on the radial surface of the enclosure, such that the protrusion is axially closer to the radial surface of the disk than the radial surface

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of the enclosure (Fig. 2, Element 62. Bogdanski teaches an electromagnet being placed axially from the enclosure used to erase the disk surface);

Providing the protrusion with two segments that are radially spaced apart from each other (Pat. No. 4, 703, 379; See Fig. 1, Elements 44 and 50 and Col. 4, Lines 2-14);

Bogdanski further teaches that the two magnets (Element 44 in Fig. 1) are spaced in order to erase the data placed in disk (Element 26 in Fig. 1). Bogdanski fails to teach generating an internal magnetic field with a magnetic gradient that is steeper than that of the external surface of the enclosure. However, it is obvious to a person of ordinary skill in the art that in order to the interior magnet to erase the data in the disk, the magnetic field has to be greater than the one provided by the any external magnetic field (Pat. No. 4, 703, 379; Fig. 2, Element 62 Shows a permanent magnet used to erase the disk data.). Bogdanski fails to teach generating an external magnetic field on an exterior of the enclosure such that the external magnetic field at least partially penetrates the enclosure, inserting the disk device into the external magnetic field and erasing data stored in the magnetic disk by generating an internal magnetic field with a magnetic gradient that is steeper than that of the external surface of the enclosure. However, this feature is well known in the art as disclosed by Nagasato et al., wherein it teaches an external magnetic field on an exterior of the enclosure such that the external magnetic field wherein there is a disk inside the enclosure (Pat. No. 5, 146, 447; Col. 9, Line 56 to Col. 10, Line 19). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Bogdanski and Araki et al.'s invention in order to have an external magnet in order to supply an external magnetic field to the medium.

Allowable Subject Matter

Claims 14-16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claim 14, the primary reason allowable subject matter is the inclusion of the limitation wherein the magnetic field generator comprises a pair of protrusions that are bent from the surface of the top cover axially toward the radial surface.

Regarding Claim 16, the primary reason for allowable subject matter is the inclusion of the limitation the convex portion comprises an indentation having inclined segment that are formed acute angles with respect to the radial surface of the top cover.

Response to Arguments

Applicant's arguments filed 3/23/2004 have been fully considered but they are not persuasive due to the newly amended claims 1, 3-13 and 18.

Examiner acknowledges that Claims 2 and 17 are cancelled.


Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (703)305-8411. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703)308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


gpr
May 18, 2004.


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